

INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP2005/050465

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C12Q1/68 G01N33/50

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12Q G01N C12N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, BIOSIS, MEDLINE, EMBASE, Sequence Search

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 00/63434 A (UNIVERSITY OF UTAH RESEARCH FOUNDATION; YALE UNIVERSITY) 26 October 2000 (2000-10-26) page 46 - page 48; examples 14,15	2,9
X	WO 02/064749 A (RENOVIS, INC; SERAFINI, TITO, ANDREW) 22 August 2002 (2002-08-22) page 20; table 11	4
X	WO 02/068579 A (PE CORPORATION) 6 September 2002 (2002-09-06) Sequence 21933 from Patent W002068579 = SEQ ID NO:2 (KCNE4)	2
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

G document member of the same patent family

Date of the actual completion of the international search

16 June 2005

Date of mailing of the international search report

04/07/2005

Name and mailing address of the ISA

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 99/55867 A (INCYTE PHARMACEUTICALS, INC; HILLMAN, JENNIFER, L; PATTERSON, CHANDRA;) 4 November 1999 (1999-11-04)	2
Y		1,5,9, 10,12
Y	GOOD T A ET AL: "BETA-AMYLLOID PEPTIDE BLOCKS THE FAST-INACTIVATING K+ CURRENT IN RAT HIPPOCAMPAL NEURONS" BIOPHYSICAL JOURNAL, NEW YORK, US, US, vol. 70, no. 1, January 1996 (1996-01), pages 296-304, XP009036314 ISSN: 0006-3495 the whole document	1,5,9, 10,12
Y	SHIEH CHAR-CHANG ET AL: "Potassium channels: Molecular defects, diseases, and therapeutic opportunities" PHARMACOLOGICAL REVIEWS, WILLIAMS AND WILKINS INC., BALTIMORE, MD,, US, vol. 52, no. 4, December 2000 (2000-12), pages 557-593, XP002295931 ISSN: 0031-6997 the whole document	1,5,9, 10,12
Y	WO 00/77035 A (NEUROSEARCH A/S) 21 December 2000 (2000-12-21) the whole document	1,5,9, 10,12

Continuation of Box II.1

Although claim 11 is directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.

Continuation of Box II.1

Claims Nos.: 7,8

Rule 39.1(iv) PCT - Method for treatment of the human or animal body by therapy

Continuation of Box II.2

Claims Nos.: 3

Present claim 3 relates to a compounds defined by reference to a desirable characteristic or property, namely being a modulator of KCNE4. The claim covers all compounds having this characteristic or property, whereas the application provides support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT for none of such compounds. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Independent of the above reasoning, the claim also lacks clarity (Article 6 PCT). An attempt is made to define the compounds by reference to a result to be achieved. Again, this lack of clarity in the present case is such as to render a meaningful search over the claimed scope impossible. Consequently, no search has been carried out for claim 3.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

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Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 7, 8
because they relate to subject matter not required to be searched by this Authority, namely:
Although claim 11 is directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. ☒ Claims Nos.: 3
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0063434	A	26-10-2000	AU 778566 B2	09-12-2004
			AU 4240900 A	02-11-2000
			CA 2369812 A1	26-10-2000
			EP 1175513 A1	30-01-2002
			JP 2002541862 T	10-12-2002
			WO 0063434 A1	26-10-2000
			US 6864364 B1	08-03-2005
			US 2004197818 A1	07-10-2004
WO 02064749	A	22-08-2002	US 2003051266 A1	13-03-2003
			WO 02064749 A2	22-08-2002
			US 2003106074 A1	05-06-2003
WO 02068579	A	06-09-2002	WO 02068579 A2	06-09-2002
WO 9955867	A	04-11-1999	US 6071720 A	06-06-2000
			AU 3654399 A	16-11-1999
			CA 2326233 A1	04-11-1999
			EP 1073736 A1	07-02-2001
			JP 2002512799 T	08-05-2002
			WO 9955867 A1	04-11-1999
			US 2003113844 A1	19-06-2003
			US 6432687 B1	13-08-2002
WO 0077035	A	21-12-2000	AU 4911000 A	02-01-2001
			WO 0077035 A2	21-12-2000
			EP 1194447 A2	10-04-2002
			JP 2003527082 T	16-09-2003
			US 6649371 B1	18-11-2003
			US 2004180405 A1	16-09-2004

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Box No. 1 Nucleotide and/or amino acid sequence(s) (Continuation of Item 1.b of the first sheet)

1. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, the international search was carried out on the basis of:
 - a. type of material
 - ☒ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material
 - ☒ In written format
 - ☒ In computer readable form
 - c. time of filing/furnishing
 - ☐ contained in the international application as filed
 - ☐ filed together with the international application in computer readable form
 - ☒ furnished subsequently to this Authority for the purpose of search
2. ☒ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
3. Additional comments: